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A SOCIETY FOR THE ADVANCEMENT

OF THE

SCIENCE OF ELECTROPLATING

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Branch Secretaries: The Editor is getting back lots of Reviews. Bum Addresses, How's Your List.

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EDITORIAL

PROGRESS

Efficiency in methods of production has for the past few years been the major slogan in the industries. It is now realized that efficiency can only be obtained by improved methods. The known methods of operation, after careful and intense application, were found to be lacking in completeness. Often interlocking operations were found weak because some small detail, which heretofore had been considered of minor importance, became a key operation. This led to investigation, not general investigation based upon the overworked practical information, but upon carefully assembled correct data obtained from scientifically directed efforts—research. It is to research that the progress made in electroplating during the past few years owes its success.

It may well be asked what part the practical plater has had in the contribution of new and better methods for electrodeposition? There are a few men—try to count them on the fingers of one hand—who have contributed, not through their practical knowledge, but through the scientific data which they have obtained by the light of the burning candle after the day's work in the shop was done.

The A. E. S. will be pointed to with pride. What has the A. E. S. done other than to make it possible for many platers to obtain a knowledge of the already existing conditions? A few Branch Societies have established classes in which analysis of plating solutions is taught. In one Branch it took years of patient, hard work on the part of an unselfish, self-scientifically trained man to interest enough platers to establish a class and that consisted of not over one-third of the membership, when every member needed the instruction

given. That is a subject but is not [illegible] research.

How about the A. E. S. research work at the Bureau of Standards? All the work done so far has been done through the efforts of one man. A half-hearted (and that word is not too strong) support of the members of the A. E. S., as a whole, has made it possible to start research work on a small scale next year. This is due to the heroic work done by the former and the present Research Committee. Are you supporting the work of that committee or are you one of the at least 80 per cent—just think, 80 per cent—of the members who have not taken enough interest in the work that will make you better platers so as to answer a few questions on a return post-card?

Progress in electroplating will go on and what part in it the A. E. S. plays depends upon you. There can be no more true statement than, "As ye give, so shall ye receive." If you are not interested in the advancement of the work by which you earn a livelihood, then how can it be expected that any bureau or private organization will be? Demonstrate in a positive way your interest if the support of others is to be sought.

At conventions, open meetings, and banquets enthusiasm runs high when the magic word Research is mentioned. Is this all a flare? No, it cannot be—you resent such a statement; then prove yourselves by doing your part, however small it may be, to support that which will carry you and the A. E. S. to a better knowledge—less worry and greater contentment.

GEORGE B. HOGABOOM,
Past President and Chairman of Publishing Committee.

BUFFING COMPOSITIONS

F. R. Porter
Edison Electric Appliance Co.

Buffing compositions, as we understand them today, are compounds prepared to be used in giving a final finish to metal surfaces, the purpose of which is to produce a high lustre and an attractive appearance. This paper is the result of an investigation of these compositions with the idea in view of establishing a specification, or specifications which, when adhered to, would result in the purchasing of composi-

tions suitable for use by the [illegible] Electric Appliance Company for finishing plated parts.

The final finishing or buffing of metal parts, particularly plated parts, has become a very important industry. Many articles and appliances are sold mainly on their "looks" or appearance, the mechanical soundness of them receiving but little thought by the purchaser. The higher the lustre and the more pleasing the appearance, the more readily the article may be sold.

Obtaining a high lustre and a pleasing finish on metal parts requires a careful selection of finishing or buffing materials, proper equipment and experienced operators. Careful selection of materials requires that standards be established; yet in industry today there are few, if any, standards covering such materials. Indeed, there is little published data or information on the subject.

In general, buffing compositions consist of a mineral powder of suitable mesh, termed the abrasive, held together by means of animal, vegetable and mineral greases, termed the bond or binder. They are made by stirring the powder into the melted binder, pouring into suitable containers, and sealing.

Requirements

A satisfactory finishing or buffing composition must first of all give the required color and lustre to the article; it must work fairly rapidly; it must not gum up the wheel or smut the work; it should be readily removable—saponifiable, or emulsifiable, or both—in a suitable cleaner; it must be efficient, that is, produce the greatest number of satisfactorily finished parts per dollar spent.

Color and Lustre

In the buffing or finishing operation color and lustre are imparted to metals by that part of the buffing composition called "the abrasive." Abrasive is hardly a correct term, as the action of this part of the satisfactory composition should be one of burnishing or smoothing, rather than abrading or scraping off. Any abrasion or cutting down should have been done on the part before plating.

The universally accepted abrasive for finishing compositions is dolomitic lime, containing usually above 30 per cent magnesia, although lime lower in magnesia may be used.

High calcium limes [illegible] ecause they slack quickly, and because t[illegible]re grease or binder than the magnesia lime, th[illegible]ing a more expensive composition. Dolomitic limes s[illegible] about one-half as fast as high calcium limes and expa[illegible] in slacking far less—expanding perhaps one and three-quarters to two times compared to two and one-half to three and one-half for the high calcium limes.

Other "abrasives" such as emery flour, tripoli, pumice, amorphous silica, crocus and rouge may be and sometimes are used in finishing compositions mixed with the lime. Their use is questionable as they are either too sharp and hard grained, cutting the metal away rather than smoothing and burnishing it, or they are more expensive than lime.

Tests have shown that a straight lime composition properly compounded gives a high lustre and as good a color and works as fast as a composition containing 8 to 10 per cent silica, for example. A lime composition also does not, in general, cut away at much metal as a silica composition because the grains are round and soft, which tend to crush down during buffing.

Working Qualities

Finishing compositions are divided into three classes, depending upon the amount of grease or binder present, viz., greasy, medium and dry. The working qualities of a composition depend very largely on the percentage and quality of the grease or binder in it.

A greasy composition when applied to a buff wheel deposits more composition than a medium or dry one containing the same grease base. Also more composition remains on the wheel from the greasy composition due to the larger percentage of grease. In general, heavy work, nickel-plated steel, for example, will require a greasy composition containing 26 per cent to 28 per cent grease or binder. Medium work will require a medium composition containing from 23 per cent to 25 per cent grease, while light work such as nickel-plated brass or copper will require a dry one containing from 20 to 22 per cent grease.

Experiments have shown that it is highly important to use compositions containing the proper amount of grease. For example, one experiment conducted showed that with a compositon containing 29.4 per cent saponifiable grease and 70.6

90 per cent dolomitic lime [illegible]ed parts were finished in 89 minutes and that 6[illegible] standard 14-in. buff were used up in the operation; whi[illegible] same weight of a composition made up with the same lime and grease, but in the proportions of 23 per cent grease and 77 per cent lime, 100 parts were finished in 105 minutes, using up 9¼ oz. of the buff in the operation.

The quality of the grease used also has a large bearing on the working qualities of a compositon. A case in point was two dry compositons used on finishing nickel-plated brass parts. Both contained approximately 24 per cent grease and 76 per cent lime. One was fairly soft and worked quickly. The other was very hard, and worked noticeably slower because of the difficulty of getting enough to stick to the buffing wheel.

The quality of grease controls largely the consistency of the composition. This is readily realized when we remember that, for example, the hard and soft tallows commonly used have approximately the same melting points—116° and 118° F., respectively, but are vastly different in consistency, the hard being much firmer than the soft tallow. Two compositions made using these greases in the same proportions would be just as different in consistency.

Tests made in sample of two dry limes from different manufacturers showed that each contained approximately 23 per cent grease and 77 per cent dolomitic lime, but one solidified at 65.0° C. (149.0° F.), the other at 52.0° C. (125.6° F.). The one solidifying at 52.0° C. showed the better working qualities upon test. There is, of course, a limit to which the melting point can be carried. Experiments and tests indicate that the best compositions are those solidifying around 50° to 55° C.

Smutting

Smutting the work generally is an indication that too much composition is being used—an indication that the composition used is too greasy. In general, lime compositions containing more than 28 per cent grease will show a tendency to smut when used on "heavy" finishing. On nickel-plated copper and brass parts (light work) smutting will tend to occur with compositions containing much over 22 per cent grease.

It is the belief among composition manufacturers that compositions containing unsaponifiable greases will smut quicker

and more than those containing ones. This has not been our experience containing as much as 10.3 per cent unsaponifiable and a total of 29.4 per cent total grease have been used with equally good results in this respect as a similar composition containing only saponifiable greases. In general, it may be said that smutting is due more to the quantity than to the quality of grease or binder in a satisfactory composition. However, it must be remembered that the quality of the grease affects, to some extent, the absorbing capacity of the lime and affects the apparent greasiness of the composition.

Cleaning

For a majority of work finished by buffng it is important that any composition used by readily cleaned from the parts. Three methods are in general use for cleaning buffed parts—hand scrubbing with naphtha, soaking in hot alkaline solutions followed by hand scrubbing, and cleaning in hot alkaline solutions with the aid of an electric current—in other words, an electric cleaner.

If cleaning is to be done by soaking and scrubbing in either naphtha or hot alkaline solutions, then little thought need be given to the character of the grease or binder, as practically all usable greases are fairly readily removable in this manner, since the bond is quite soluble in naphtha.

However, hand scrubbing involves considerable labor which makes this manner of cleaning more or less expensive and hence inefficient. In these days of efficiency, such a cleaning method is not long tolerated and we find attention directed toward the electric cleaner as a means of removing buffing composition as well as other foreign matter or dirt. The cleaning action of an electric cleaner is at least threefold—mechanical, by means of the gas evolved on the work; chemical, by saponification or emulsification of greases; physical, by melting the greases. In a conveyor electric cleaner, where the work to be cleaned is mechanically carried through the cleaner, the work is in the solution for perhaps not longer than one to one and one-half minutes, so that removal of greases by saponification or emulsification is practically nil, most being removed by the mechanical action of the gas evolved, and by melting.

Cleaning flat, smooth parts in a conveyor electric cleaner offers little or no difficulties, as generally there is only a

ght film ... resent. However, on parts which have ... is much more of a problem, the buffing co... builds up in a hard lump on the side of the part around the perforations. These lumps are removed with difficulty unless given a preliminary soaking in a suitable solution to loosen the lumps, or permitting them to stand until the lime in the lumps slacks—absorbs moisture from the air—expands and loosens. The parts then are readily cleaned in the conveyor cleaner. The general practice in the Edison Electric Appliance Company's factory is to store buffed parts for at least fifteen hours to let the lime slack and loosen any lumps, then to pass through a conveyor electric cleaner.

Tests have shown that compounds containing saponifiable greases only slack appreciably quicker than those containing unsaponifiable ones. For example, a composition containing 29.4 per cent saponifiable greases slacked 85 per cent faster than one containing the same amount of grease, 30 per cent of which was unsaponifiable.

For the same greases, the drier the composition—less grease—the faster the slacking. Also compositions containing silica slack slower than straight lime compositions, other things being equal. Therefore, for quick slacking and loosening up of lumps, the composition should be made up of saponifiable greases and straight lime.

Efficiency

In determining the efficiency of buffing compositions, it is necessary to consider the qualities enumerated above as well as the number of pieces of work finished per pound of composition per hour per buff. Experiments have proven that for a composition satisfactory in other respects, the efficiency—number of pieces per pound per hour per buff—depends largely upon the percentage of grease present, as was brought out under Working Qualities.

Specification

Work done at the Edison Electric Appliance Company has shown that for finishing nickel-plated appliance parts the following specifications cover satisfactory compositions:

	Greasy	Medium	Dry
Saponifiable Grease	23.5 to 25.0%	21.0 to 22.5%	18.0 to 19.75%
Unsaponifiable Grease	2.5 to 3.0%	2.0 to 2.5%	2.0 to 2.25%
Silica (SiO_2)	Less than 2.0%	Less than 2.0%	Less than 2.0%
Lime { CaO }	Not less than	Not less than	Not less than
{ MgO }	67.0%	70.0%	73.0%

	Grease	um	ry
Iron and Alumina $\{FeO_3\}$ $\{AlO_3\}$	Less t	3.0%	han 3.0%
Solidification temperature	50	C.	to 55° C
Fineness of Abrasive	250 h		50 mesh

Grease, silica, lime, iron and a ni e d ermined b any approved method.

The solidification temperature is dete. ied by heating th composition in a suitable container, p erably a titer test tube, to 70° C., allowing it to cool abo : 1° C. per minute, and noting the temperature at which it becomes solid.

ACKNOWLEDGMENT

The writer wishes to thank the several firms who have collaborated with him in supplying materials to be used in this investigation and also for their helpful suggestions.

CHROMIUM PLATING

It is my personal opinion that when all the patents covering chromium plating are finally simmered down to their true basis it will be found that Sargent's solution is the true basis solution.

The result of Sargent's work during the years from 1907 to 1920 can be found in the transactions of the American Electro Chemical Society, 1920.

Sargent's solution consists of the following:

Water	1 litre
Chromic Acid	245 grams
Chromic Sulfate	3 grams
Concentrated Sulphuric Acid	5 cc.

Mr. Le Blanc in 1906 found that addition of Boracic Acid to Sargent's solution to replace the sulphuric acid gave splendid bright deposits. These solutions were not patented; it is presumed that the solution operated by the Oldsmobile Company is a combination of the two above formulæ.

Paul W. Strauser presented a very interesting paper during the annual convention of the American Electro Platers' Society in Newark, entitled "A Summary of the Early Developments of the Electro-depositon of Chromium Up to the Present Time." Mr. Strauser was connected with the General Motors Corporation, Research Division, for some time, so it is presumed that the formula he gave out is identical with the Oldsmobile formula. This solution is as follows:

Water	1 litre
Chromic Acid	200 grams

nic S..... 5 grams

c A..... 3 grams

he solut is t te ank with heavy steel anodes, the nperature a rag ron 85° to 115°; voltage 4 to 5 amrage 125 per sq foot minimum. The anodes should entirely surround th rticles to be plated; the distance from anode to cathode sho d average 4 inches. The anode should be so arranged that the positive current factor makes at all times absolute contact or failure will result. This remark also applies to the articles to be plated. The negative connection must be absolutely secure before the articles enter the solution.

This solution will not give results when first prepared; it is advisable to electrolize for 24 to 36 hours before using. For this purpose chromium anodes are recommended. These do not reduce in any type of chromium solution. Chromium should also be used as the cathode until the solution deposits chromium uniformly upon the articles to be finally chromium-plated. The advantage of electrolyzing the solution with metallic chromium is that no impurities enter the solution during the operation.

The Bureau of Standards, Washington, D. C., operate an almost identical solution to the one given above, except boracic acid is replaced with chromium carbonate and sheet lead is used as anodes instead of steel.

It might be advisable at this time to elaborate upon the value of chromium deposits for your purpose.

Its great advantage would be, as we might term it, as a metal lacquer for your product that would give an extremely hard surface above the polished nickel and protect the finished product from atmospheric oxidation. In other words, chromium stays bright almost indefinitely with usual care. Chromium deposits when applied direct to steel do not protect the steel from rust, wherefore it is necessary to copper- and nickel-plate the steel as you now do to give the desired basic lustre surface and resistance to atmospheric corrosion.

When brass or other non-ferrous metal is used in the manufacture of articles to be finally chromium-plated it is always advisable to deposit a bright deposit of nickel underneath.

George Enos, in his Standard paper entitled "Notes on the

Plating of Chromium on S nerican
Electrochemical Society, 1 iography
of chromium-deposition fr his article
was written, including the pa ear dates of
ten foreign and United States pa s data is not
essential. Two patents recently issued, er, are worthy
of your perusal, No. 1,590,170, filed Sept. 10, 1925, and No. 1,589,988, filed Nov. 11, 1924.

CHARLES H. PROCTOR.

THE VALUE OF A TRADE PAPER

Relation of a Business Publication to Its Trade, and the Technical Societies and Trade Associations

By Adolph Bergman

The last few years have seen an extraordinary rise in the number and influence of technical and trade publications, or as they are known, industrial or business publications. It seems fitting, therefore, at this time, to explain the work of such a publication in the electro-plating and finishing trades.

Every publication has two departments upon which it is based.

1. The Editorial Department which is responsible to the reader.

2. The Advertising Department which is responsible to those who wish to sell materials, equipment, supplies, etc., to the reader.

The Editorial Department has for its object the presentation of technical and trade information which will be of concrete value. The reader must be supplied with material which will not only interest him, but which will be worth his while. Trade publications are read to a surprising extent during business hours. It is a part of every man's business to keep in touch with new developments in the art in which he is engaged, and to know what changes or improvements are being made. There is no time more profitably spent than the hour or two in looking over the publication which deals with his industry. Therefore, such a publication must appeal to its reader primarily from the dollars and cents point of view. It must pay him to read it.

Good publications have little or no difficulty in providing their readers with information far beyond the value of the

subscri[illegible]tion price is almost always ridiculo[illegible]early pay for the cost of producing

In a gen[illegible]on of interest to a trade such as electro-pla[illegible]grouped under the following heads:

Description[illegible]w and modern plants.

Descriptions of new chemical and electrical methods, including formulae, etc.

Descriptions of operating methods, such as plant layout, placing of equipment, production statistics, cost-keeping, etc.

Editorial opinions based on wide acquaintance with the trade and numerous sources of information.

Abstracts and announcements of publications of interest to the trade other than those published in the journal. These would include new books, publications of technical societies, etc.

Announcements of patents issued, of interest to the trade.

Descriptions of new devices, machinery, supplies, and other items used in the trade.

News of the associations and societies in the trade. This is a very important function as the journal can greatly aid the growth and influence of technical societies and trade associations by giving them publicity in the news columns and reprinting their articles and papers in the technical columns.

Personal reports of the activities of various individuals known in the trade.

Reports of deaths of prominent persons.

Business reports from various localities, giving conditions in the industry, new incorporations, etc., thus often providing readers and advertisers with important information about those who are engaged in their industries.

Prices of materials and supplies.

The business or bread and butter side of a publication is its advertising department. It is here that those firms and individuals manufacturing materials which the readers use, can describe their products in their own terms.

This does not mean, however, that the reader has no interest in this department. As a matter of fact, the reader who treats advertising pages as if they were unwelcome sales-

men, is making a serious mistake. I should look upon these pages as an important source of information. Statements made in the advertising pages of course, made by the advertisers themselves, and may be subject to the charge of bias. No publication of standing will permit anything to appear in these pages which does not conform to a very high standard of competition. For example, it is perfectly proper for an advertiser to praise his own products, but he must not depreciate those of his competitor. Moreover, an advertiser must not make extravagant claims, or claims that he cannot fulfill. Not only is this practice unethical, but it is an evidence of poor judgment, as this deception is certain to be discovered and will react all the more strongly against the one who has practiced it. Advertisers are not permitted to talk through the Editorial columns, as those columns have to remain unbiased and unprejudiced. It is their right, however, to state their opinions about their own materials in space for which they pay, and set forth the advantages which they claim exist in their products.

Obviously, therefore, no advertiser can buy reading space or influence the policy of the editorial department because of his advertising expenditures. It would be ruinous both to the journal and to the advertiser if such a practice were permitted, as the reader would lose confidence in the journal and stop reading it.

The best summary of the function of a business publication was made by the Editorial Conference of the New York Business Publishers' Association, Inc., several years ago and we think of no better statement of our beliefs than the following:

1. To consider first the interest of the subscriber.
2. To subscribe to and work for truth and honesty in all departments.
3. To publish in an impartial way, free from personal opinion, the news of the industry in which the paper circulates.
4. To refuse to publish "puffs," free reading notices or paid "write-up," and to keep his reading columns independent of advertising considerations.
5. To be a leader of thought in his editorial columns and to make his criticisms constructive, with the object of bring-

ing his industry to higher levels of thought and practice and to a greater measure of public service.

6. To support in his columns such worthy measures of public interest as their importance justifies and the space available permits.

7. To give proper credit for articles taken from other publications, and to avoid unfair practices in competition with them.

These are the basic principles of a business publication. Its main object is to improve its industry in every legitimate way, for as the industry grows, the publication grows with it.

NEWARK BRANCH

On Friday evening, December 3rd, Newark Branch held its regular educational meeting of the month in our new meeting room in Franklin Hall. President Geo. Onksen in the chair with 19 Newark members and a delegation of six members from New York Branch present. Mr. A. K. Graham of Philadelphia Branch was also present.

The meeting was turned over to Librarian Calabrese and in answer to his request for discussion on platinum plating, the following members spoke upon the subject, Messrs. A. K. Graham, Geo. Conley and Geo. Hogaboom.

Copper oxidizing was discussed with the following members taking part: Messrs. Geo. Hogaboom, O. J. Sizelove, P. Sievering, R. F. Clark, and A. Calabrese. President Mr. Mac Stoker of New York Branch spoke in behalf of New York Branch, congratulating Newark Branch in securing such a fine large meeting hall.

Messrs. Clark, Mac Stoker and Hogaboom spoke on bright copper plating.

Messrs. A. K. Graham and Dupernel spoke on spotting out and porosity of electro-plated deposits. Messrs. Fisher and Sterling of New York Branch responded with a few words and invited all members to the New York Branch Banquet to be held on February 19.

The snow storm of the evening no doubt kept many members away from the meeting, but they missed an exceedingly interesting and educational meeting. President Onksen urged all members who have not sent in their return postcards regarding the research committee's request, to do so at once as only 17 of the 65 cards sent out have returned. Meeting adjourned at 11:40 P. M.

PHILADELPHIA BRANCH

Regular monthly meeting of Philadelphia Branch was held Friday, December 3rd. The meeting being called to order by the president, Geo. Gehling.

Discussion on acid copper streaking. Plating of die castings brought forth some good suggestions.

Banquet committee reported the banquet a big success, there being 252 present and all had a good time. At the educational session there

was an attendance of 109 who enjoyed very interesting talks by Mr. Chas. H. Proctor on rust proof deposits. Dr. Hukins, chromium plating; Dr. Blum, zinc plating; Supreme Pres. M[illegible]e on silver solutions, and Mr. Geo. Hogaboom on nickel anodes. These were all very instructive talks and were appreciated by those present.

Research communication and postcards were read and Mr. E. K. Clark, chairman of committee, reported having received quite a number of returns.

TORONTO BRANCH

Toronto Branch held the regular November meeting as usual at Foresters Hall, College St., and had a fair turnout. Mr. Lyle Morrison and Mr. J. Punter of the Oneida Community Silver Co., Niagara Falls, paid us their fall visit, and the Toronto boys were right glad to see them.

Mr. Morrison gave an illustration of the up-to-date ventilating system at the Niagara Falls plant, which was well received.

A letter was read from Mr. Robinson, Ilion, N. Y., on magnesium sulphate in nickel solutions which started a discussion that lasted the best part of an hour.

A paper was read from Mr. David Ayers of Prescott, Ont., dealing with the care of plating dynamos, quite an interest was shown with this paper when it came to the part of commutator dressing.

Alex Armstrong came next with a few plated articles of jewelry, chains, etc., some of the members thought it was satin finished nickel deposit, but Alex said it was platinum deposit, stating that he was experimenting with a solution to have a brighter and harder deposit, giving longer wearing qualities.

Word was then passed around that Mrs. O'Keefe was sick, which accounted for Tom's non-appearance. As Mrs. O'Keefe is on the ladies committee of the Branch, the members expressed their sympathy and hoped for her speedy and complete recovery before the next Euchre. Before the meeting closed, President W. S. Barrows reminded the members of their obligations towards the research fund, urging the members to do their utmost to a successful end. Walter talked to the members just like a father to his sons. Meeting adjourned 11:20.

CHICAGO BRANCH

Regular monthly meeting of Chicago Branch A. E. S., was held December 11th.

The meeting was called to order with President Jacob Hay presiding and all officers present. There was a very good attendance.

President Hay called upon Mr. H. A. Gilbertson, chairman of the banquet committee. Mr. Gilbertson stated that the committee has been working very hard to make this one of the greatest banquets that Chicago Branch has ever held. He also reported that they have secured some very high class entertainers for the evening. Mr. Gilbertson stated that inasmuch as the committee has done everything possible, he would like to see every member of Chicago Branch cooperate with him to make this banquet a success by attending the same.

Mr. O. E. Servis, chairman of the educational session reported that he had secured Dr. O. P. Watts of the University of Wisconsin who

will present a paper on "The Throwing Power of Solutions"; Mr. Cleveland Nixon, paper on "The Value of P. H. On Deposits"; Mr. F. R. Porter, paper "Notes On Chromium Plating" and several other papers.

Mr. Servis also stated that the foyer room in which this educational session is to be held is equipped with special microphones so as to enable everyone to hear every word of the speakers regardless in what part of the room they may be seated.

The balance of the evening was given over to Mr. Erwin Sohn who spoke on brass plating solutions using a black-board; this caused some lively discussion among the members present and proved very interesting. Mr. Sohn answered all questions, explaining the same with the aid of the black-board.

This was the last of a series of talks given by Mr. Sohn, owing to him leaving town. The Chicago Branch voted him a standing vote of thanks, for we regret losing so able a speaker.

Robert Meyers, Secretary.

PROVIDENCE-ATTLEBORO BRANCH

The Providence-Attleboro Branch has affiliated with the Providence Engineering Society, and meets at their rooms at 44 Washington St., Providence, on the first and third Thursdays of each month.

Last May in considering the "good of the Branch" it was voted that we approach the Engineering Society on the matter of affiliation; and a committee was appointed to see the job through.

Dr. Strachan was active for us. By this affiliation the members of the Branch will have the privilege of the lectures of the Engineering Society on the various topics of interest, both public and scientific.

The Engineering Society issues a weekly news sheet to the members of all of the affiliated bodies.

The list of lectures is made up by a committee of members of several bodies allowing each member an opportunity to procure a speaker on a topic of special interest to his branch.

Thus we have Dr. Colin G. Fink to speak on some recent advances in electro chemistry at the Society room on Tuesday, December 14.

There is a class in chemistry for electro-platers at Brown University, conducted by Dr. E. K. Stradian; ten of our members are enrolled. The class meets one night a week.

On October 7th at our regular meeting, Dr. Strachan gave us a chalk talk on chromium and chromium-plating, showing samples of pieces that he had plated in his experiments at Brown Laboratory.

On October 21 at regular meeting, Prof. N. K. Rakestraw of Brown University, talked to us on the topic "Atoms and Electrons." With illustration on the board. Prof. Rakestraw explained in non-technical way the method worked out to prove that atoms were charged with electricity, or made up of positive and negative charges.

On November 4 we had a visitor from Wheaton Seminary at Norton, Mass. A professor who was interested in electro-plating and chromium-plating. We had a pleasant evening with the professor.

On November 17 the Branch was favored by a lecture on Electro-

plating Generators by Prof. F. N. Thomkins of Brown University, at the University.

Prof. Thomkins in an informal way and with instruments to demonstrate his talk, made everything so plain that we could not fail to get the principles of the generator. Every member present greatly appreciated the lecture.

DETROIT BRANCH

Educational and regular business meeting of the Detroit Branch A. E. S., held December 3rd at Detroit Testing Laboratory, with about 17 members present, with president J. Flanagan in the chair.

Minutes of the previous meeting were read and approved. One application of John F. K. McCullough was received, and turned over to the board of managers, which was reported favorably.

The evening was taken up with general all-around table discussions, such as nickel plating of years ago when pitting was never heard of, etc., and also the different nickel deposits of the present day. The return postcards for the research fund committee are coming in very slow. The members that haven't sent theirs in yet, will please do so.

Meeting was adjourned at 10:30. Chas. Mascola, Secretary.

ST. LOUIS BRANCH

The regular November and December meetings were held at American Annex with large attendance. After dinner President Harry Siemer called the meetings to order, and after business was disposed of, the meeting was turned over to Dr. H. C. Ward, who is giving a series of lectures, along the lines of electro-plating. These lectures are very interesting and educational. Mr. E. J. Musick was appointed chairman of the Banquet Committee, to make arrangements for our coming banquet on January 22nd, 1927. The meetings adjourned at 9:30 P. M.

NEW YORK BRANCH

The invitation meeting of the New York Branch A. E. S. held at the World Building, Park Row, New York, on December 9, 1926, was a great success, over 100 members and invited guests attending.

The Newark Branch was represented by a large delegation of members.

Mr. C. L. Mantell, electro-plating instructor of Pratt Institute, addressed the meeting on tin and the history of the metal, its uses and its mining operation. He also gave an outline of the relation of chemistry to the plater. His talk was enjoyed by all.

Mr. Oliver Sizelove of Newark Branch then addressed the meeting on the necessity of the plater knowing the analysis and control of his solution. His talk met the full approval of all those present. Dr. Blum of Bureau of Standards coincided with Mr. Sizelove as did also Mr. George Hogabrons, on the need of the plater of today to control his solution by chemical analysis. Dr. Blum also addressed the meeting on the work of the research fund committee and its aims and asked for cooperation of all the members.

Mr. George Onksen, Mr. Horace Smith and Philip Sievering spoke also on the success of the meeting and the will of the A. E. S., after which refreshments were then served and were enjoyed by all.

The Eighteenth Annual Banquet of the New York Branch will be

held at the Aldeen Club, Fifth Ave and 23rd St., on February 19, 1927. An open session will be held in the afternoon at 3 P. M., at which papers will be read and prominent men in the plating line will address the meeting. The committee is headed by R. J. Lignon, assisted by A. Grinhan, J. Sterling, E. Tannert, E. Schorr, P. Morningstar, W. Fischer, J. Rolff and G. Dupenell.

NEWARK BRANCH

The business meeting of November was held in Franklin Hall with 17 members present. President Onksen occupying the chair. Minutes approved as read.

Mr. Frank Hennessey was suspended for non-payment of dues and reinstatement dues.

On December 10th Newark members will visit New York Branch's open meeting.

Mr. George Renter was appointed chairman of the 1927 banquet committee.

Messrs. Smith, Sizelove and De Voti were appointed as a welfare committee to arrange a social meeting also an open meeting with speakers for the occasion.

The subject for discussion at our next meeting on December 3rd will be Platinum Plating, also Oxidizing on Copper. Mr. Van Winkle Todd gave an interesting talk upon the advancement of chromium plating, predicting a wider field, and in his opinion it is being put on a production basis now, rather than staying in the experimental stage.

Royal F. Clark, Secy-Treas.

CINCINNATI BRANCH NEWS

Cincinnati Branch A. E. S. has lost one of her valuable members and I know you will be grieved to hear of the death of our co-worker Wm. J. Husing.

As you know he has been our Secretary for some time past and I know we will surely miss him. He has been a hard worker and also a very congenial fellow and for these reasons I believe Cincinnati Branch has lost an important member. Frank H. Nordman.

IRONING OUT A FEW WRINKLES

Cleaning

By JERRY DE GRAZZIO

After thinking of what to write about, I find it rather hard to find a subject that has not been already written, but, as we go along reading different papers on various subjects, we often find that we could add a little here and a little there.

What I am going to write about is some practical points, little snags that the plater often meets in his daily routine of work.

There are times when one might fool with a few pieces of work for a couple of hours before he can get them cleaned and plated right, but if he knew just what to do when this

happens he would save a lot of time [illegible] g i n th[illegible] right way.

The old saying is, "The longest way around is the sweetest way home." That is true only when one is in love, for there are very few of us that are in love with trouble and doing our work over.

I am trying to explain how to overcome some of the many difficulties in the plating room. I may jump from one angle of the work to another, and from one kind of plating solution to another, but I will endeavor to explain the best I know how, and if it will be of any value to some of our fellow members I will feel well paid for my efforts.

Where there is a large amount of steel stamping to be plated, and especially where same are strung on copper wire, you will find that after you have been using your hot cleaning solution for a long time the steel or iron pieces will come out of the potash or cleaning solution with a brownish copper coating, or we might call it a copper film; but it is not an adhesive coating. If it were we would not have any trouble; it is loose and can be rubbed off with the fingers, so, trying to deposit on a piece that has this film on it is just like trying to lay a flat stone on a round one and expecting it to lay oven, which is impossible, and it is just as impossible to try to plate on steel pieces that has the brown copper coating or film.

There are a few reasons why this happens. It will happen when soldered brass articles are cleaned in the same solution and allowed to remain in the tank longer than necessary; the potash or lye will attack the tin in the solder and will remain in the cleaning solution.

The cleaning of soft metals in the same tank is not a very good policy. The worst of all that causes trouble is the dragging in of acid from the pickling solution by improper rinsing. All these things help to contaminate the cleaning solution, so when a lot of steel stampings are being left in there to clean, say, for about ten to fifteen minutes, when they are taken out, they are found to be pretty well covered with that troublesome loose copper film.

I would advise you to use a separate cleaning tank for the work that causes trouble to the steel parts. This also happens in the muriatic acid pickling solution; for instance, when the

same pickle has been used for quite a long time with work strung up on copper wires, some of this copper is being reduced by the action of the acid and when steel pieces are left in there for a short time the steel will come out of there pretty well covered with this copper film.

Now to remove this film is not an easy matter if one is not acquainted with the proper manipulation. He might resort to the scrubbing method, or buff the piece over, and also make a new cleaning solution, which means a lot of time and money. Cleaning with a brush is not an easy matter where there are many pieces to be done and, besides, the brush will not get into all over the pieces. Especially where there are from 100 to 200 pieces in one bunch this would prove a difficult proposition.

There are several ways this film can be removed with very little effort and very efficiently. You can hang them in a wormy cyanide solution for about five to ten minutes, depending how bad the film is on them. This will remove all film and leave it very clean, and after usual rinsing they are ready to be hung into any of the plating solutions.

Another method to clean them is by running them through a regular liver of sulphur solution for a few seconds. This is accomplished in the following manner: When the work is taken out of the cleaning tank with the above mentioned brown film, the work is rinsed in water and dipped into the liver of sulphur solution; agitate the work for a short time the same as you would for oxidizing copper. In a short while the pieces will become black. Remove from dip and rinse in water. From here give a dip in a strong cyanide dip until all of this black is removed. Then rinse again in water and dip in a muriatic acid pickle composed of all muriatic acid and no water. From here they are again rinsed in water, after which they are ready for the nickel-plating solution. This method will be found very effective and chemically cleaned.

Preventing Peeling in Nickel-Plating Polished Steel Parts

It often happens that when polished steel parts are being plated, we find some of the pieces peel. The ordinary way of cleaning them is to soak them in a hot cleaning solution. These are either scrubbed with a brush or simply agitate them with air, or any other convenient way the plater sees fit.

After this work is taken ou[t] of the potash tank they are rinsed in water, then given a [dip] in a muriatic acid pickle, rinsed again in water, back t[o] the potash tank or cleaning solution, then rinsed again in [wa]ter, and from here they are hung in the nickel-plating tank.

It happens that after the final rinsing from the cleaning solution to the water, if they are not rinsed thoroughly in the water the steel pieces will feel rather slimy or slippery to the touch of the fingers. This is what causes most of the peeling or nonadhesive nickel deposit.

This can be avoided by simply running the work through a sour dip composed of muriatic acid three parts, water one part. After the final rinsing from the potash tank to the water they are dipped into this last dip, then back in the clean water, and then into the plating tank. By using this sour dip I have very little of my work spoiled by peeling.

(Continued in January Issue)

APPLICATIONS

	Branch
Wm. Wickesser, Ridgeare and Noble Sts. (Active)	Philadelphia
Nicholas Marketon, 1719 Washington Ave. (Active)	New York
Vernon C. Grant, care of Pere Hotel (Active)	Hartford, Conn.-Valley
Samuel Silverstein, 1926 S. Trumbul Ave. (Active)	Chicago
John Christensen, 168 W. Oak St. (Active)	Chicago
John A. Williamson, 2232 Mildred Ave. (Active)	Chicago
W. P. Rice, 703 W. 32nd St., Kansas City, Mo. (Active)	Chicago
Leonard R. Bartnek, 1715 Brigham St. (Active)	Chicago

ELECTIONS

Robert M. Harbster, c/o Chantrel Hdwe. Co., Reading, Pa.	Philadelphia
Elmer Savage, 1624 Muhlenberg St., Reading, Pa.	Philadelphia
Leslie B. Fowler, P. O. Box No. 8, Taffan, N. J.	Newark
John Fredrick Kerr McCullough, care of Ternstedt Mfg. Co.	Detroit
Leo. F. Zettle, 11th and Noble Streets (Active)	Philadelphia
Louis Manheim, 721 Sansom St. (Active)	Philadelphia
John G. Andrews, 1107 S. 53rd St. (Active)	Philadelphia
Clarence M. Rames, 909 Main St., Abingdon, Ill., care of American Metalware Co., 368 W. Huron St.	Chicago
Henry C. Alt, So. Holland, Ill.	Chicago
Earnest C. Gilman, 1341 E. Prairie St., Decatur, Ill.	Chicago
Steve Gerloski, 3067 Bonfield St.	Chicago
John McCarthy, 2657 S. Spaulding Ave.	Chicago
George L. Mamerow, 4222 N. Keeler Ave. (Associate)	Chicago

TRANSFER

R. E. Massicoti, from New York to	Philadelphia

RESIGNATIONS

C. Relenski, 3343 Almond ..... Philadelphia
George Hasslacher ..... Philadelphia

DEATHS

Wm. J. Husing, Secretary-Treasurer ..... Cincinnati

SUSPENSIONS

Frank Hennessey ..... Newark
Edgar Cornell ..... Pittsburgh
R. W. Tillatson, 2406 Plum St., Erie, Pa. ..... Pittsburgh
Peter Young ..... Chicago
W. R. Cummings ..... Chicago

St. Louis Branch
of the
American Electro-Platers' Society
again cordially invites you and your friends to attend
Fifteenth Annual Banquet

To be held at American Annex, Sixth and Market Streets, St. Louis, Mo., on Saturday afternoon and evening January 22nd, 1927.

Educational Session at 3:30 P. M., and a Movie Party for the ladies, which will be followed at 6:30 P. M. with a Dinner and Entertainment and concluded by Dancing.

For Reservations and further information communicate with Mr. E. J. Musick, 7144 Kingsbury Blvd., St. Louis, Mo.

THE CHICAGO BRANCH
of the
AMERICAN ELECTRO-PLATERS' SOCIETY
again cordially invites you and your friends to attend
THE FIFTEENTH ANNUAL BANQUET
to be held in the Red Lacquer Room of the new Palmer House, State and Monroe Sts., Chicago, Ill., on Saturday afternoon and evening,
JANUARY 29, 1927.

An interesting educational session will be held at 3 P. M., which will be followed at 6:30 P. M. by a splendid dinner, full of entertainment and concluded by dancing. Do not forget the ladies.

For reservations and further information communicate with the secretary, Mr. R. Meyers, 2432 Wilson Ave., Chicago, Ill.

Tickets $3.50 per person.

BOSTON

Regular meetings are held first Friday of each month, at 8 p. m., at the Boston Platers' Supply Co., 202 Friend St., Boston. Secretary, A. W. Garrett, 24 Juliette St., Dorchester, Mass.

BRIDGEPORT

Meets first and third Friday of each month at 62 Cannon St., Room 17, Bridgeport, Conn. Secretary Wm. Ehrencrona, 872 Hancock Ave., Bridgeport, Conn.

CHICAGO

Meets second Saturday of each month, at 8 p. m., Atlantic Hotel, 316 S. Clark St. Secretary, Robt. Meyers, 2432 Wilson Ave., Chicago, Ill.

CINCINNATI

Meets every Thursday, 7:30 p. m., at Vocational Training School, Spring and Liberty St. Secretary, W. J. Husing, 729 McMillan Ave., Cincinnati, Ohio.

CLEVELAND

Meets first Saturday of each month at Hotel Winton. M. E. Zadowski, 6517 Bridge Ave.

HARTFORD-CONN. VALLEY

Meets fourth Monday in each month alternately at 266 Pearl St., Hartford, Conn., and corner Broadway and Worthington St., Springfield. Tennant Elwin, Secretary, 117 Hobart St., Meriden, Conn.

DAYTON

Meets first Saturday of each month at the Y. M. C. A., Dayton, Ohio. Secretary, Albert Bates, Box 34, Vandalia, Ohio.

DETROIT

Meets the first and third Friday of each month at the Detroit Testing Laboratory, 554 Bagley Ave., Detroit. Secretary, Chas. Mascola, 2041 Beard Ave., Detroit, Mich.

GRAND RAPIDS

Meets on the second Saturday of each month at the Vocational High School, 129 Bostwick Ave., N. E. Secretary, Jacob Van Dyke, 1361 Union Ave., N. E., Grand Rapids, Mich.

INDIANAPOLIS

Meets the second Saturday of each month at Hotel Denison. Secretary, Louis Mertz, 1725 Union St., Indianapolis, Ind.

MILWAUKEE

Meets second and fourth Thursdays of each month at Lipps Hall, 321 3d St. J. N. Hock, 310 Galena St., Milwaukee, Wis.

MONTREAL

Meets last Friday of month at Office of Secretary, John H. Feelay, 411 Aylmer St., Quebec, Canada.

NEWARK

Meets first and third Fridays of each month at Franklin Hall, 41 Franklin St., Newark, N. J., at 8 p. m. Secretary-Treasurer, Royal F. Clark, P. O. Box 201, Newark, N. J.

NEW YORK

Meets every second and fourth Fridays of each month in the World Building, Park Row, New York City, N. Y. Secretary, J. E. Sterling, 2595 45th St., Astoria, L. I.

PHILADELPHIA

Meets first Friday of each month in the Harrison Laboratory Building, University of Pennsylvania, 34th and Spruce Sts. Secretary, P. Uhl, 2432 North 29th St., Philadelphia, Pa.

PITTSBURGH

Meets first Saturday of each month at 8 p. m., at United States Bureau of Mines Bldg., Forbes St. Secretary, S. E. Hedden, 227 Fifth St., Aspinwall, Pa.

PROVIDENCE-ATTLEBORO

Meets first and third Thursday of each month at 184 Washington St., Room 308, Providence, R. I. Secretary, J. H. Andrew, 19 Rosedale St., Providence, R. I.

ROCHESTER

Meets every third Friday of each month at the Powers Hotel. C. A. Reama, Secretary, 512 Lyell Ave., Rochester, N. Y.

ST. LOUIS

Meets first Friday of each month at Barr Branch Library, corner Jefferson and Lafayette Sts. Secretary, F. P. Menniges, 4019 Molozan Ave.

TOLEDO

Meets first Thursday of each month at Toledo University Science Building, Electro-Platers' Room, corner Cherry and Page Sts. Secretary, W. W. Weiker, 411 3d St., Toledo, Ohio.

TORONTO

Meets fourth Monday of each month at Canadian Foresters' Hall, 22 College St., Room No. 2. J. C. Cairns, 10 Wiltshire Ave., Toronto, Ontario, Canada.

WATERBURY

Meets every second and fourth Friday of each month. Secretary, Wm. F. Guilfoile, 14 Oakland Ave., Waterbury, Conn.